CLAIMS

- 1. A carbohydrate-binding module which is
- 5 (a) a polypeptide encoded by the DNA sequence of positions 109-531 of SEQ ID NO:1, or a DNA sequence homologous to SEQ ID NO:1, which DNA sequence has at least 50% identity with positions 109-531 of SEQ ID NO:1 or
 - (b) a polypeptide produced by culturing a cell comprising the DNA sequence of positions 109-531 of SEQ ID NO:1 under conditions wherein the DNA sequence is expressed or
- (c) a polypeptide having the amino acid sequence of positions 34-174 of SEQ ID NO:2, or a polypeptide homologous to SEQ ID NO:2, which polypeptide has an amino acid sequence of at least 50% identity with positions 34-174 of SEQ ID NO:2 or
 - (d) a polypeptide encoded by a DNA sequence that hybridizes to the DNA sequence of positions 109-531 of SEQ ID NO:1 under low stringency conditions or
- (e) a polypeptide encoded by an isolated polynucleotide molecule which polynucleotide molecule hybridizes to a denatured double-stranded DNA probe under low stringency conditions, wherein the probe is selected from the group consisting of DNA probes comprising the sequence shown in positions 109-531 of SEQ ID NO:1, and DNA probes comprising a subsequence of positions 109-531 of SEQ ID NO:1, the subsequence having a length of at least about 300 base pairs.
 - 2. The carbohydrate-binding module of claim 1, which is encoded by a DNA sequence obtainable from *Pseudoplectania nigrella* CBS 444.97.
- 3. An isolated polynucleotide molecule encoding a polypeptide having carbohydrate-binding module activity selected from the group consisting of:
 - (a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO:1 from nucleotide 109 to nucleotide 531;
- (b) polynucleotide molecules that encode a polypeptide that is more than 50% identical to the amino acid sequence of positions 34-174 of SEQ ID NO:2; or a fragment thereof that has carbohydrate-binding module activity:
 - (c) molecules complementary to (a) or (b); and
 - (d) degenerate nucleotide sequences of (a) or (b).
- 4. The isolated polynucleotide molecule according to claim 3, wherein the polynucleotide is DNA.
 - 5. An isolated polynucleotide molecule encoding a polypeptide having carbohydrate-binding mod-

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ule activity which polynucleotide molecule hybridizes to a denatured double-stranded DNA probe under low stringency conditions, wherein the probe is selected from the group consisting of DNA probes comprising the sequence shown in positions 109-531 of SEQ ID NO:1 and DNA probes comprising a subsequence of positions 109-531 of SEQ ID NO:1 having a length of at least about 300 base pairs.

- 6. The isolated polynucleotide molecule according to claim 3 which is isolated from or produced on the basis of a DNA library from a prokaryote, such as a bacterium or an eukaryote, such as a fungus or yeast.
- 7. The isolated polynucleotide molecule according to claim 6 which is isolated from or produced on the basis of a DNA library from a strain of *Pseudoplectania*, preferably the strain *Pseudoplectania* nigrella CBS 444.97.
- 8. A polynucleotide construct comprising the polynucleotide molecule according to any of claims 3-7.
 - 9. The polynucleotide construct of claim 8 comprising one or more control sequences, such as a promoter, a leader sequence, a polyadenylation sequence, a signal peptide, a propeptide and a transcription terminator sequence.
 - 10. An expression vector comprising the following operably linked elements: a transcription promoter; a DNA segment selected from the group consisting of (a) polynucleotide molecules encoding a polypeptide having carbohydrate-binding module activity comprising a nucleotide sequence as shown in SEQ ID NO:1 from nucleotide 109-531, (b) polynucleotide molecules encoding a polypeptide having carbohydrate-binding module activity that is more than 50% identical to the amino acid sequence of position 34-174 of SEQ ID NO:2 or a fragment thereof that has carbohydrate-binding module activity; and (c) degenerate nucleotide sequences of (a) or (b); and a transcription terminator.
 - 11. A cultured cell into which has been introduced an expression vector according to claim 10, wherein said cell expresses the polypeptide encoded by the DNA segment.
- 12. The cell according to claim 11, which is an eukaryotic cell, in particular a fungal cell, or an endogenous cell from which the DNA segment, encoding the polypeptide exhibiting endo-beta-1,4-glucanase activity, originates.

13. The cell according to claim 12, wherein the cell belongs to a strain of *Aspergillus*, preferably a strain of *Aspergillus oryzae*, preferably the strain *Aspergillus oryzae* BECh2.

- 14. A method of producing a polypeptide having carbohydrate-binding module activity comprising culturing a cell according to claim 11, whereby said cell expresses a polypeptide encoded by the DNA segment; and recovering the polypeptide.
- 15. An isolated polypeptide having carbohydrate-binding module activity, in which the polypeptide is (i) free from homologous impurities, and (ii) produced by the method according to claim 14.
- 16. A composition comprising a CBM according to claims 1, 2 or 15.

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- 17. The composition of claim 16 further comprising one or more enzymes selected from the group consisting of proteases, cellulases, beta-glucanases, hemicellulases, lipases, peroxidases, laccases, alpha—amylases, glucoamylases, cutinases, pectinases, reductases, oxidases, phenoloxidases, ligninases, pullulanases, pectate lyases, xyloglucanases, xylanases, pectin acetyl esterases, polygalacturonases, rhamnogalacturonases, pectin lyases, other mannanases, pectin methylesterases, cellobiohydrolases, transglutaminases; or mixtures thereof.
- 18. A method for degradation of cellulose-containing biomass, wherein the biomass is treated with an effective amount of the carbohydrate-binding module according to any of claims 1-2 and 15 or of the composition according to claims 16 or 17.
- 19. A hybrid endo-glucanase, exhibiting endo-beta-1,4-glucanase activity comprising a CBD according to claims 1, 2 or 15 and a catalytic domain.
 - 20. A composition comprising a carbohydrate-binding module according to claims 1, 2 or 15 or the hybrid endo-glucanase of claim 19.
- 21. Use of a carbohydrate-binding module according to claims 1, 2 or 15 or the hybrid endoglucanase of claim 19 in a detergent composition.
 - 22. Use of a carbohydrate-binding module according to any of claims to claims 1, 2 or 15 or the hybrid endo-glucanase of claim 19 in textile finishing processes.
 - 23. Use of a carbohydrate-binding module according to any of claims to claims 1, 2 or 15 for purification of polypeptides.

24. Use of a carbohydrate-binding module according to any of claims 1, 2 or 15 for immobilisation of active enzymes.

- 5 25. Use of a carbohydrate-binding module according to any of claims 1, 2 or 15 for baking.
 - 26. Use of a carbohydrate-binding module according to any of claims to claims 1, 2 or 15 for manufacturing of biofuel.
 - 27. Use of a carbohydrate-binding module according to any of claims to claims 1, 2 or 15 for modification of plant cell walls.
- 28. Use of a carbohydrate-binding module according to any of claims to claims 1, 2 or 15 for processing of cellulose fibre.

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